AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) Method for managing a battery system including a number of serially-coupled batteries comprising:

detecting different battery voltages over at least two ~~of the~~ serially-coupled batteries of the battery system;

controlling the voltage distribution of the two serially-coupled batteries by controlling the potential at an intermediate connection point between the two serially-coupled batteries to purposefully create an applied voltage imbalance between the two serially-coupled batteries of the battery system; and

utilizing the applied voltage imbalance between different serially-coupled batteries of the system during operation of the battery system.

2. (currently amended) Method according to claim 1, further comprising:

using the applied voltage to charge one of the two serially-coupled batteries at a first charging voltage based on the detected battery voltage for the one battery and to charge the other of the two serially-coupled batteries at a second different charging voltage based on the detected ~~on the detected~~ battery voltage for the other battery.

3. (currently amended) Method according to claim 1, wherein the step of controlling the voltage distribution comprises:

controlling the voltage distribution of the serially-coupled batteries to enhance a detected voltage imbalance between the different serially-coupled batteries of the system.

4. (currently amended) Method according to claim 1, further comprising:

alternating between serially-coupled batteries of the battery system having different voltages during predetermined intervals.

5. (previously presented) Method according to claim 1, wherein the step of utilizing the voltage imbalance comprises:

utilizing the voltage imbalance between different serially-coupled batteries of the system during the charging and/or discharging of the serially-coupled batteries.

6. (previously presented) Method according to claim 1, further comprising:

sensing a battery parameter of the battery system; and

utilizing the sensed battery parameter for the control of the voltage distribution.

7. (previously presented) Method according to claim 4, wherein the step of sensing a battery parameter comprises:

sensing the temperature at the battery system.

8. (currently amended) A device for managing a battery system including a number of serially-coupled batteries, comprising:

voltage detecting means connected to said battery system and arranged to detect the battery voltage over the serially-coupled batteries of the battery system;

DC-to-DC-converting means connected to said battery system; and

a controller connected to said voltage sensing means and to said DC-to-DC-converting means and being arranged to control the voltage distribution over the serially-coupled batteries of the battery system via said DC-to-DC-converting means by controlling the potential at an intermediate connection point between the two serially coupled batteries to purposefully create an applied voltage imbalance between different serially-coupled batteries of the battery system.

9. (original) Device according to claim 8, further comprising means for sensing a battery parameter of said battery system connected to said controller and wherein said controller is arranged to utilize said parameter at said control of the voltage distribution.

10. (original) Device according to claim 9, wherein said means for sensing a battery parameter is a temperature sensor for sensing a temperature at said battery system.

11. (previously presented) Device according to claim 10, further comprising a timer unit connected to said controller.

12. (previously presented) A computer-readable medium comprising instructions for bringing a computer to perform a method according to claim 1.

13. (currently amended) A device according to claim 8, wherein the controller is arranged to use the applied voltage to control the voltage distribution over the serially-coupled batteries of the battery system via said DC-to-DC-converting means to charge one of the serially-coupled batteries at a first charging voltage based on the detected battery voltage for the one battery and to charge an other of the serially-coupled batteries at a second different charging voltage based on ~~the detected on~~ the detected battery voltage for the other battery.

14. (currently amended) A device for managing a battery system including multiple serially-coupled batteries, comprising:

a voltage detector arranged to detect the battery voltage for a first battery and a second battery in the battery system, which first and second battery are serially-coupled;

a battery charger; and

a controller connected to the voltage detector and to the battery charger and being arranged to receive from the voltage detector a first detected voltage for the first battery and a second detected voltage for the second battery that is different than the ~~firs~~ first detected voltage,

the controller being further arranged to control the battery charger to charge the first battery at a first charging voltage based on the first detected battery voltage and to charge the second battery at a second different charging voltage based on the detected ~~on the detected~~ second battery voltage by controlling the potential at an intermediate connection point between the two serially coupled batteries.

15. (previously presented) The device according to claim 14, wherein the battery charger is a DC-to-DC converter.

16. (previously presented) The device according to claim 14, further comprising means for sensing a battery parameter of said battery system connected to said controller and wherein said controller is arranged to utilize said parameter when controlling charging of the first and second batteries.

17. (previously presented) A device according to claim 16, wherein said means for sensing a battery parameter is a temperature sensor for sensing a temperature at said battery system.

18. (previously presented) The device according to claim 14, wherein the first charging voltage is near a first gas voltage associated with the first battery and the second charging voltage is near a second different gas voltage associated with the second battery.

19. (currently amended) A device according to claim 14, wherein the controller is arranged to use the applied voltage to control the voltage distribution over the serially-coupled batteries of the battery system via ~~said~~ a DC-to-DC-converting means to charge one of the serially-coupled batteries at a first charging voltage based on the detected battery voltage for the one battery and to charge an other of the batteries at a second different charging voltage based on the detected ~~on the detected~~ battery voltage for the other battery.